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A Brief Summary of Economic Conditions

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LIGHTNING WARFARE struck the farm commodity markets during the past month. Prices of wheat and cotton melted all over the world; in the United States, much of the rise in the general level of farm commodity prices since the outbreak of the European War was canceled. Grain prices then were pegged and buttressed by Government loans to growers on their 1940 crops. . . . Farm income may not be very different this June than last. * * * Meanwhile, a new production and marketing season has opened rapidly the country over. Crops and pastures made quick growth following a late spring . . . truck crops are rolling to market in heavy volume . . . hog marketings are at seasonal peak . . . sheep and lambs shorn of wool that may yield producers 100 million dollars this year are going to slaughter . . . in the winter wheat belt another mechanized harvest will soon be under way . . . soon a report will come of the first bale of cotton ginned in the Deep South * * * Prospects continue for better consumer demand this summer than last.

Commodity Reviews

DEMAND: Uncertain

BEFORE the latest German invasion, conditions pointed definitely to improvement in the domestic consumer demand for farm products. The industrial recession apparently had ended in April. With steel production advancing, residential building making a good showing, exports of industrial products substantially above last year, and goods moving into consuming channels at a comparatively high rate, a gradual upswing of business activity and consumers' income was in prospect.

Then came the blitzkrieg. If this proves to be only temporarily successful, leading to increased activity on a broader war front, the effects on the industrial situation in the United States probably will be stimulating. Increased export of many kinds of war supplies will follow, with effects similar to increased Government spending by this country. With increased exports and large domestic preparedness expenditures, the gradual increase of industrial activity previously indicated may turn out to be even greater as a result of the war developments.

On the other hand, should the German invasion be so successful as to bring about a quick termination of the war, the effects on domestic business activity probably would be adverse. Exports of industrial goods would decline. Inventories of such products have been built up in fear of war-time price increases, and if the war ended businessmen probably would choose to use part of their stocks rather than to continue current purchases. This might lead to reduced production, employment, and consumers' income. Partly or wholly offsetting this influence, however, would be the increased preparedness expenditures of this country should the war end in this way. Orders for airplanes and other

supplies now being made for the Allies would at least to some extent be replaced by orders from our own Government, since we do not have sufficient capacity for many of these products to satisfy both demands.

F. L. THOMSEN.

EXPORTS: Shrunk

Prior to the recent war developments export markets for many of our farm products already had been lost or greatly diminished. Almost the only important exception was cotton, but even for this commodity the outlook for next season was definitely bad. This loss of our export markets was due largely to two developments: (1) Restrictions on imports and consumption by the Allies in order to conserve their dollar exchange for the purchase of industrial goods and for other purposes, and (2) the shutting off of neutral markets by invasion.

The recent developments have cut us off from several European nations which were important markets for fruit, feed, and other United States farm products. On the other hand, these countries previously had supplied considerable quantities of pork, dairy, and poultry products to Great Britain. The United States eventually may obtain a part of this market. Consideration must be given, however, the fact that Britain can make up for at least a part of the loss in imports by consuming less, by increasing consumption of substitute products, and by increasing imports from Canada and countries other than the United States.—F. L. T.

EMPLOYMENT: Increase

Now is the seasonal peak of farm employment, with approximately 3,000,000 hired hands on farmers' pay rolls. The season began with farm wage rates the highest in nearly

10 years, but wages may have been pared since then in view of the sharp declines in farm commodity prices last month.

The number of hired workers usually declines through July, then increases through September and early October. Employment then decreases sharply—by approximately 1,000,000 hired hands—through December. Farm employment is larger than it was 5 years ago, but as an annual average approximately 300,000 fewer hired workers are engaged now as compared with 10 years ago.

Cash farm wages totaled 550 million dollars in 1939. This compares with 393 million in 1934, and with 955 million in 1929. The total now is about the same as it was in 1910-14. The peak during the last 30 years was 1,099 million dollars in 1919.

PRICES: Break

The Government index of prices of farm products was reported as unchanged during the month ended May 15, but this did not reflect all of the sharp decline that followed the swift

thrust of Germany through the low countries. Wheat at Chicago dropped 30 cents a bushel. Declines in prices of wheat, corn, cotton, lard, and other products probably canceled much of the rise in the general index of farm

Index Numbers of Prices Received and Paid by Farmers

[1910-14=100]

Year and month	Prices received	Prices paid	Buying power per unit of farm products ¹
1939			
January.....	94	120	78
February.....	92	120	77
March.....	91	120	76
April.....	89	120	74
May.....	90	120	75
June.....	89	120	74
July.....	89	120	74
August.....	88	119	74
September.....	98	122	80
October.....	97	122	80
November.....	97	122	80
December.....	96	122	79
1940			
January.....	99	122	81
February.....	101	122	83
March.....	97	122	80
April.....	98	123	80
May.....	98	123	80

¹ Ratio of prices received to prices paid.

Prices of Farm Products

Estimates of average prices received by producers at local farm markets based on reports to the Agricultural Marketing Service. Average of reports covering the United States weighted according to relative importance of district and States.

Product	5-year average, August 1909-July 1914	May average, 1910-14	May 1939	April 1940	May 1940	Parity price May 1940
Cotton, lb.....cents.....	12.4	12.7	8.48	10.03	9.79	15.87
Corn, bu.....do.....	64.2	66.2	48.3	58.6	63.4	82.2
Wheat, bu.....do.....	88.4	90.3	63.0	88.9	80.7	113.2
Hay, ton.....dollars.....	11.87	12.28	6.68	8.29	8.32	15.19
Potatoes, bu.....cents.....	69.7	69.5	164.4	83.8	83.5	87.6
Oats, bu.....do.....	39.9	41.5	29.5	38.8	36.6	51.1
Soybeans, bu.....dollars.....	(?)	(?)	.87	1.00	.96	-----
Peanuts, lb.....cents.....	4.8	4.9	3.2	3.53	3.66	6.1
Beef cattle, cwt.....dollars.....	5.21	5.50	7.09	7.16	7.35	10.67
Hogs, cwt.....do.....	7.22	7.23	6.39	4.90	5.35	9.24
Chickens, lb.....cents.....	11.4	11.8	13.9	12.9	13.6	14.6
Eggs, doz.....do.....	21.5	16.6	15.2	15.0	15.1	³ 21.3
Butterfat, lb.....do.....	26.3	24.0	21.5	27.5	26.9	³ 32.4
Wool, lb.....do.....	18.3	17.8	21.0	26.1	27.6	23.4
Veal calves, cwt.....dollars.....	6.75	6.59	8.26	8.63	8.91	8.64
Lambs, cwt.....do.....	5.87	6.46	8.02	8.14	8.25	7.51
Horses, each.....do.....	136.60	139.20	82.50	76.60	76.10	174.80

¹ Revised.

² Prices not available.

³ Adjusted for seasonality.

products prices at the outbreak of war last September.

May 15 indices for grain, cotton and cottonseed, truck crops, and dairy products were lower than on April 15; indices for fruit, meat animals, and chickens and eggs were higher. Indices for all groups except meat animals, and chickens and eggs were higher than on May 15 last year.

INCOME: Increase

Income from marketings in May probably was not seriously affected by the sharp declines in prices of grains and cotton. Marketings of these products are relatively small in May. Marketings of grains do not become heavy until June, and of cotton until August. Income from fruits is seasonally increased from June through November. The annual peak of income from all commodities combined is in October.

Farmers' cash income from marketings and Government payments in the first 4 months of this year was 274 million dollars more than in the like period of 1939. The total was 2,615 million dollars compared with 2,341 million in 1939. All major groups of commodities except fruits, vegetables, and poultry and eggs yielded larger income. Government payments were larger.

The following table shows income for April and cumulative totals for January-April, with comparisons:

Month and year	Income from marketings	Income from Government payments	Total
	<i>Million dollars</i>	<i>Million dollars</i>	<i>Million dollars</i>
April:			
1940.....	559	66	625
1939.....	478	90	568
1938.....	482	60	542
January-April:			
1940.....	2,258	357	2,615
1939.....	2,059	282	2,341
1938.....	2,118	168	2,286

WHEAT: New Crop

A new winter wheat harvest will soon be under way. The crop was officially indicated in May at 460 million bushels. Growing conditions improved during the month, and it now appears that the total supply of wheat for 1940-41—including winter and spring wheat and the July 1 carry-over—will be only a little smaller than in 1939-40. The total supply for 1939-40 was 1,009 million bushels.

The wheat crop in other parts of the world has not been doing so well this season, and the world crop is likely to be smaller this year than last. It may be smaller than world consumption. This means that the world carry-over of wheat a year hence may be smaller than on July 1, 1940.

Prices of wheat broke sharply the world over last month following the swift invasion of Belgium and France. Prices in the United States declined somewhat more than at Winnipeg and Buenos Aires, but continued high in comparison with prices abroad. The decline was checked when futures were pegged at minimum levels on the grain exchanges and prices were buttressed by offers of Government loans on the 1940 crop basis 81 cents, No. 2 Hard Winter at Chicago. Farmers cooperating in conservation programs will also receive adjustment and parity payments.

AAA announced there would be no marketing quota for wheat this year since the total supply is below the marketing quota level of 1,023 million bushels. Announcement was made also of a 1941 national wheat acreage allotment of 62 million acres.

COTTON: Lower Priced

Cotton growers watching the swift turn of domestic and foreign events find little of encouragement in their situation. It is true that the world carry-over of American cotton has been reduced by approximately 1 million bales this season, but factors

on the demand side are less favorable than they were a few months ago.

Domestic cotton-mill activity has declined sharply since last December. It may decline more than seasonally in the next few months unless sales by manufacturers should increase. The foreign situation has been worsened by the invasion of Belgium and Holland, where approximately 600,000 bales of cotton were consumed annually during the last 4 years.

Added to the difficulties on the continent, is the recent loss of the important manufacturing area of Northern France as a market for exports, and the possibility of losing the Italian and other Mediterranean markets. The Italian mills alone consumed about 700,000 bales of cotton in each of the last 2 years.

The combining of all these factors put cotton prices down in mid-May to lowest figures since early December. The 10-market average for Middling 15/16 was 10.18 cents during the week ended June 1, as compared with the December peak of 11.28 cents, and with 9.66 cents during the last week of May in 1939.

FEED: Price Ratio

The relation between feed prices and livestock prices continues unfavorable to livestock producers. The effect may well be to reverse the upward trend in livestock numbers and production of livestock products. Meanwhile, the 1940 feed crops are well along, growing conditions having improved following the late spring. The corn crop probably will be smaller this year than last, but a high record carry-over of old corn is in prospect.

Feed grains continue to sell for higher prices this year than last, despite the declines following the extension of the war through the low countries. Except for subsidized exports, the European market for United States corn has been prac-

tically shut off for the time being. An important factor supporting prices is the United States Government corn loan. On May 20 a lower limit of 59 cents per bushel was placed on July corn futures.

An analysis by BAE shows that prices of hogs and eggs relative to feed prices in May were much below the average for that month in the 10 years 1929-38, that the price of butter was somewhat below the average, that the price of beef cattle was slightly below.

CATTLE: Little Change

It appears now that total cattle slaughter will be about the same this year as last. Marketings of fed cattle are likely to continue larger during the remainder of 1940 as compared with 1939, but marketings of other cattle—mostly of breeding stock—will be smaller: Slaughter supplies of well-finished, long-fed cattle will increase seasonally during the early summer, and of cows and heifers during the summer and fall.

Prices of the better grades of slaughter cattle usually decline during the winter and spring. This year, through late May, the prices of such cattle held steady to slightly higher. How long this can continue is doubtful in view of the relatively large marketings of fed cattle in prospect during the next few months. On the favorable side—for cattle as for hogs—will be the stronger consumer demand for meats this summer than last.

BAE says that the demand for feeder cattle may not be as strong this fall as last, since smaller feed supplies and higher feed prices are in prospect. Prices of feeder steers have risen rather sharply since late winter, and in mid-May averaged a little higher than at the same time last year. Prices at Kansas City averaged \$9.45 for the week ended May 17, compared with \$9.20 in the corresponding week of 1939.

HOGS: Heavy Marketings

Hog marketings should decline during the remainder of the summer. Total volume from May to September will be larger than in the same period a year ago, but the increase may be a little less than in the first 7 months of the current hog-marketing year. Prospects also appear favorable for a better consumer demand this summer than last.

Fewer pigs probably were produced this spring than last. Feed is plentiful, but it is higher priced in relation to the price of hogs. Continuation of this unfavorable price ratio may result in the marketing of a relatively large proportion of the spring pig crop in late summer and fall. A smaller crop of pigs this fall than last also is in prospect.

Immediately unfavorable for exports of pork and lard is the recent turn of events in the foreign political situation. Exports of pork may increase later in the year when British supplies of meats run low. Meanwhile, the export market is practically nonexistent. No immediate increase in British purchases of United States pork is likely.

British imports of bacon from Canada and of beef from South America have increased since the beginning of the war, and meat production in Great Britain has been stepped up as a result of the heavy slaughter occasioned by reduced imports of feed. Late this year or early next, British meat production will be curtailed. This may lead to a moderate increase over last year in United States exports of pork in 1941.

Little or no increase in British takings of American lard is in prospect this year, and possibly next. Great Britain appears to have large stocks of fats and oils and can obtain imports of vegetable and marine oils to better advantage than imports of lard from the United States.

LAMBS: Round-Up

Prospects are for larger marketings of sheep and lambs in late spring and early summer this year than last. Basis is the larger proportion of early lambs in slaughter condition, and indications of a heavy movement of grass fat yearlings from Texas. Supplies for slaughter may continue relatively large in late summer and early fall, since late lambs in the Western States are in good condition.

A round-up of the situation indicates that California shipments were much larger this May than last and included fewer feeder lambs, that Texas shipments of fat sheep and lambs would be much heavier this June than last, and that the market movement of lambs from the Northwest will be earlier than usual this year. In contrast, the shipments from the Southeast will be late. Lambs have not done well in the Southeast this season.

Total slaughter supplies of sheep and lambs were about the same in the first 4 months of this year as compared with 1939 . . . Prices have been supported by a stronger demand for meats and wool . . . The number of stock sheep on farms and ranches on January 1 last was the largest for that date in recent years.

WOOL: New Clip

Much of the 1940 wool clip has been marketed at prices about 30 percent higher than in the spring of 1939. The 1940 clip likely will net farmers the largest cash income since 1937. It may yield around 100 million dollars, as compared with 84 million in 1939, and with 71 million in 1938. The 117 million dollars in 1937 was the largest cash income since 1919.

Government specialists see a favorable price outlook for wool the remainder of this season, even though domestic mill consumption should be smaller in 1940 than in 1939. Stocks of raw wool were unusually small at the beginning of the season, and it was

expected that dealers would buy considerable quantities of new clip wool to replenish inventories. Imports of wool have declined in competition with the new domestic clip, but may increase again later in the season.

News from abroad includes reports of a small carry-over of good-quality wools in the Southern Hemisphere, other than the stocks held by the United Kingdom in Australia and New Zealand. Sales of Australian wool to neutral countries have been relatively small. The United Kingdom is making every effort to increase export trade in manufactured products rather than in raw materials. Little New Zealand wool is available for export, most of the supply being used for military purposes.

POTATOES: Increase

Marketmen are looking for bigger supplies of new potatoes this June and early July than last. But the BAE reports that these increased quantities probably will be offset to some extent by smaller supplies of old stock. Also, by way of indicating the level of prices, the Government economists say that consumer purchasing power is slightly higher than at this time last year.

The potato crop in the second section of early States is about 5 percent larger this year than last. But a slight reduction in output in the second early States has been reported. A slight increase in the intermediate crop as contrasted with the unusually short crop produced last season has been indicated.

Reason for the increase in marketings this month is that yields of early potatoes in the Southern States have turned out much higher than had been expected. Also, because of the lateness of the season the marketings in some areas were behind schedule, resulting in some concentration of shipments this month.

Prices of new crop potatoes declined seasonally in May, whereas

prices of old stock advanced. Average to farmers was about 30 percent higher than in May last year.

TRUCK CROPS: Progress

Spring truck crops made good growth in May, and the acreage that had been planted for market in June and July was only slightly below that of last year. However, a smaller market supply was in prospect for this month. A favorable price situation was indicated, unless there should be some concentration in marketings.

In contrast, indications in late May pointed to larger crops this year than last, of asparagus, second early carrots, intermediate lettuce, intermediate green peas, second early spinach, second early tomatoes, and early watermelons. An increase of 16 percent in acreage planted or to be planted to truck crops for processing this season was indicated.

Prices declined in May as supplies of truck crops increased seasonally. Only advances were in prices of celery, red cabbage, topped carrots, onions, some varieties of peppers, radishes, spinach, yellow squash, and turnips. Prices of truck crops usually decline from early spring to late summer.

SUGAR: Near Record

The world supply of sugar for the 1939-40 marketing year is indicated at 39.1 million tons. This is the second largest supply on record, having been exceeded only by the 1936-37 total. An increase of 1.7 million tons in world production in 1939-40 more than offset a decrease of 1 million tons in carry-over stocks in 25 important countries. World production in the current season was 34.8 million short tons, raw value—the third largest on record. Most of the increase in production this year was in the principal importing countries.

Early reports from many of the importing countries of Europe indicate

substantial increases in plantings of sugar beets in prospect in 1940. Much of this increase is attributed to disruptions to international trade occasioned by the European War and a tendency for many of these countries to become self-sufficient in sugar production. These increases are likely to cause a further contraction of the export market for cane sugar produced in the southern hemisphere countries.

Production of sugar in areas usually supplying most of the cane and beet sugar consumed in the United States is indicated as being slightly larger in 1939-40 than in the preceding season. Most of this production will be available for marketing under the Government quotas announced for the calendar year 1940. Raw sugar prices, duty paid, in the United States, rose sharply following the outbreak of the European War, but have since declined. Prices in March were about the same as in that month last year.

FRUITS: Smaller Supply

Total supply of fruits probably will be smaller this year than last. It is likely that larger crops of California summer oranges, lemons, and dried prunes will be more than offset by smaller crops of other fruits. The peach crop in California, and in the Southern and North Central States, will be substantially smaller this year. The output of apples, pears, grapes, and plums in California probably will be less.

MILK: Peak Production

A high record of milk production is expected this summer. The annual peak of production usually is in June, followed by sharp declines through November. Basis for this summer's forecast is the larger number of cows on farms this year compared with last, and the prospect for improved consumer demand for dairy products. BAE expects prices of manufactured dairy products will continue higher this summer than last.

United States exports of dairy products—especially of concentrated milks—may increase as a result of the occupation of Denmark and the invasion of The Netherlands by Germany. This would be a strengthening factor in the dairy situation, but a minor one as compared with factors in the domestic market. The important thing is the domestic demand for milk and dairy products.

Production of manufactured dairy products has increased seasonally. A rather good consumer demand is in prospect, and a good storage demand. Commercial stocks of butter in storage were somewhat smaller this May 1 than last, stocks of cheese were slightly larger, and manufacturers, stocks of evaporated milk were about 54 percent larger. Storage stocks are mounting rapidly now.

Farmers are getting higher prices for all classes of milk this season as compared with a year ago, but costs of production also have been higher. The milk cows through early May were getting only about a third of their feed from pasture, and the remainder from relatively high-priced grain and concentrates.

EGGS: Production Down

Production of eggs is declining seasonally, and improvement in prices may be registered soon. Prospect is that production in the last half of 1940 will be smaller than in the like period of 1939, and that prices will average higher during this period. Much depends, of course, upon the maintenance of a good level of consumer buying power.

Farm prices of chickens tend to decline during the last half of the year, but prices may average higher this year than last. The 1940 hatch is smaller than that of 1939, stocks of storage poultry—except turkeys—are smaller than at this time a year ago, and consumer income is somewhat higher.

FRANK GEORGE.

This Changing Agricultural World

II: Fresh Fruit

IMPORTANT changes have occurred in world production and consumption of fresh fruits in the last 20 years. Outstanding have been the increased production of oranges and grapefruit in the United States, Palestine, and Brazil; of apples in Canada and Australia, and pears in the United States and Argentina. On the basis of the age distribution of present plantings, these upward trends in production are likely to continue during the next few years. World consumption of fruits also has increased, notably in the United States and Canada, and in European countries where consumer demand has been stimulated by "Eat More Fruit" campaigns.

Until comparatively recently the various countries which have increased their surplus production of fresh fruits have shared in the expanding world markets, but in varying degree. United States exports had increased in total and as a proportion of the world trade in fruits during the decade of the 1920's. The upward trend in United States exports of pears and oranges was continued during the decade of the 1930's, exports of grapefruit leveled off during this period, and the trend of exports of apples declined hampered by increasing foreign trade restrictions and competition from other surplus-producing areas.

WORLD production of apples has expanded slightly since the World War. During the past decade, the crop averaged about 420 million bushels, with the United States accounting for more than one-third the total. The trend in American production has been slightly downward during this period. Production in several other exporting areas, notably Canada and Australia, has been sharply upward. Production in

Recent political events in Europe have darkened the immediate outlook for United States exports of fresh fruits. Exports of apples and pears were sharply curtailed last season, and citrus exports to Europe since the outbreak of war have been negligible. Prospects for exports from this year's crops are no better, since virtually the whole of Europe has been eliminated as a possible export market during the coming season. It seems practically certain that except for shipments of citrus fruits to Canada the United States producers of fresh fruits must depend almost entirely upon the domestic market. The accompanying article discusses some of the principal developments in world production, consumption, and trade in fresh fruits during the last 20 years in an effort to see how these and current happenings may affect our export markets in coming years.—Ed.

France and Germany—the second and third most important producers—has shown little change.

World exports of apples increased substantially during the 1920's, and averaged 34 million bushels during the period 1929-33. Since then, the trend has been downward. Exports from the United States increased during the 1920's, but then declined. The decline in United States exports has in fact exceeded the decline in world exports of apples. Shipments from the United States averaged nearly 16 million bushels or 46 percent of total world exports between 1929-33, compared with 9.5 million bushels or 36 percent in the 3 years, 1935-37. The British imperial preference, initiated in 1932, enabled Canada to replace the United States as the principal supplier to

Great Britain. The preference on Canadian apples was reduced in the Anglo-American trade agreement of January 1, 1939, but little of the expected benefits have been realized since Great Britain put a wartime embargo on imports of American apples last November. The German foreign trade policy since 1933 has also sharply curtailed purchases of our apples. On the other hand, exports from Canada, Australia, and Italy have increased substantially during the past decade.

WORLD production of pears has been upward. During 1936-37 and 1937-38 production averaged 133 million bushels or 20 percent above the average for the 5 years 1926-27 to 1930-31. (World estimates prior to 1926 are not available.) The United States, France, and Germany produce the bulk of the world crop. Production of table pears has expanded rapidly outside Europe, especially in the United States, Argentina, Australia, and South Africa, but European production—a large portion of which consists of cider pears—has increased only slightly.

During the past 20 years, world exports of pears ranged between 6 and 6½ million bushels a year. Significant changes, however, took place in the relative importance of exporting countries. Prior to 1930, Belgium was the principal exporting country but, since then, the United States has led the world in volume of pears moving into international trade. American exports have expanded rapidly, amounting to 2.7 million bushels or 42 percent of world exports in the 1937-38 season compared with an average of 1.6 million or 27 percent of the world total during the 5 years, 1926-27 to 1930-31. American exports reached a record high of 3.4 million bushels in 1938-39. Exports of pears from Argentina, Italy, Australia, and South Africa also increased substantially.

The rapid increase in shipments from non-European surplus producing

countries has been largely at the expense of exports from European surplus pear areas. During the late 1920's, European surplus-producing regions provided about 62 percent of world exports, while non-European exporting countries supplied nearly 74 percent of the world total during the 1937-38 season. Pears produced in the newer commercial fruit regions outside Europe are superior in quality and in pack to the bulk of the pears grown in Europe. As a result, even European surplus-producing countries, such as Belgium and France, have been importing increasing quantities of non-European pears in recent years.

Pears produced in the commercial producing sections outside Europe, however, have displaced European-grown pears only in those importing countries which have followed relatively liberal foreign trade policies. For example, the non-European exporting countries—the United States, Argentina, Australia, and South Africa—have supplied the bulk of imports into the western and northern European countries in recent years. The central European importing countries, on the other hand, drew practically their entire supply from Italy, Switzerland, and Czechoslovakia, for stringent exchange and import controls have excluded pears from the surplus-producing countries outside Europe. Because of these restrictions, imports of pears into central Europe, and especially into Germany, declined sharply during the 1930's, while somewhat heavier quantities were imported by the countries of western and northern Europe during this period.

WORLD production of oranges has increased from 133 million to over 200 million boxes over the past 20 years. Most of this increase has occurred in the United States, Brazil, Palestine, and Italy. The United States, Spain, and Brazil supplied more than half the world crop during the last 10 years.

Spain dominated the international trade in winter oranges up to the outbreak of the Spanish War in 1936, supplying between 60 and 70 percent of the total exports. Winter shipments from Palestine, however, have increased almost fivefold above the average movement during the 1926-29 period. Exports of summer oranges also have expanded substantially, especially from Brazil, South Africa, and the State of California. Prior to the outbreak of the current war, the United Kingdom, Germany, and France took about 70 percent of the world imports.

Since 1920, the United States orange crop has expanded from about 32 million boxes to 75 million. Exports have risen from an average of 1.7 million boxes between 1920-25 to 5.2 million during the past five seasons. The larger portion of our shipments usually move to Canada, and this trade has been expanding. Heavier competitive supplies, however, have adversely affected American exports to Europe. As a result of reduced Spanish offerings, United States winter exports during the past two seasons have been heavy, but our winter shipments to Europe are expected to be reduced when Spanish supplies return to normal. Shipments of California Valencias are also faced with increased competition during the summer season from Brazil and South Africa.

WORLD production of grapefruit increased almost fourfold during the past 20 years, chiefly because of the rapid expansion in United States production. Although between 85 and 90 percent of the world crop in recent years has been produced in this country, Palestine is the most important exporter. American exports have averaged around 1 million boxes during the past 10 years, while shipments from Palestine rose from 106,000 boxes to over 2 million boxes during this period.

The United Kingdom and Canada take the bulk of world exports of grapefruit, since the fruit is not consumed on any large scale in continental European countries. American shipments to the United Kingdom have been restricted by increasing supplies of Palestine fruit during the winter and from South Africa and Brazil during the summer season. Our exports to Canada, on the other hand, have shown a rapid upward trend.

The United States formerly received large quantities of grapefruit from Puerto Rico. Shipments increased during the 1920's to a peak of almost 1 million boxes in 1929. Since that time, Puerto Rican shipments have declined sharply, chiefly because of heavier domestic production of the fruit. Imports from Cuba have also fallen off during the past 15 years.

WORLD production of lemons reached a peak of 27.5 million boxes in 1932-33, and Italy accounted for 65 percent of the world crop. Since that time, disease damage has reduced the Italian crop and world production has declined. In 1937, the United States became the world's leading producer.

Italy continues, nevertheless, to provide the bulk of world exports. Italian exports have ranged between 6 and 8 million boxes during the past 15 years, except for 1936 when shipments fell to 5 million boxes because of the application of economic sanctions by the League of Nations. This has represented between 80 and 90 percent of world exports.

The United States was a net importer of lemons up to 1929-30, taking an average of over 1 million boxes between 1921-22 and 1929-30. Since that time, this country has been a net exporter of the fruit. This shift resulted from heavier domestic production and from the sharp decrease in imports following the higher tariff of 1930. American exports, particularly to Canada, have been upward during the past decade.

THE big problem that confronts American growers and exporters of fresh fruits is the possible after-effects of the European war upon the foreign demand for our produce. European countries have introduced stringent wartime controls over the importation of fruits, and these restrictions are not likely to be completely removed for some time after the end of the war. These controls have been used to curtail imports of American fruit. Con-

tinuation of these restrictions will mean that American fresh fruit exports to Europe are not likely to return for a number of years to the levels reached prior to the outbreak of the war. Increased competition from other fruit-exporting countries is another unfavorable factor in the long-time outlook.

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Relations.*

Case Record of Farm Income

APPROXIMATELY 50,000 farmers in Ohio, Indiana, Illinois, and Michigan kept farm account books in cooperation with the State agricultural extension services during the 10 years 1929-38. A summarization of data contained in these books, made by the Bureau of Agricultural Economics, indicates how these farmers fared as to farm receipts, farm expenses, and farm income during a period commonly regarded as probably the most critical in American agriculture.

The year of lowest receipts and farm incomes was 1932, but farm expenses did not reach the lowest point until 1933. Following 1932, increases occurred in farm receipts and farm incomes. Farm expenses increased from 1933 through 1936, the year of highest farm income since 1929. But in 1937 and in 1938, when farm receipts were somewhat less and farm expenses somewhat more than in 1936, farm incomes dropped back to a little less than the 1934 and 1935 figures.

THE farm account book records are from every type-of-farming area within each State. All the more common types of farming within the boundaries of the four States, together with many types of less frequent occurrence, are represented. The farms average 185 acres in size with almost 150 acres of tillable land, and about 110 acres in crops other than pasture. The larger

crop acreages during the period covered were in corn, the small grains, and hay, but on many farms such crops as fruits, vegetables, potatoes, sugar beets, or dry beans were produced for sale.

The major part of the income for many of the farms was from the sale of one or more crops, while for many others it was from sales of dairy products, hogs, cattle, poultry and and eggs, sheep and wool, or a combination of two or more of these items. A large majority of the farmers repre-

Average Farm Receipts, Farm Expenses, and Farm Incomes From Farm Account Book Records in Ohio, Indiana, Illinois, and Michigan, 1929-1938

Year	Farms included	Farm receipts per farm	Farm expenses per farm	Farm income per farm
	<i>Number</i>	<i>Dollars</i>	<i>Dollars</i>	<i>Dollars</i>
1929.....	3,626	4,621	2,134	2,487
1930.....	5,024	3,243	2,114	1,129
1931.....	5,367	2,013	1,795	218
1932.....	4,306	1,582	1,410	172
1933.....	3,572	2,573	1,211	1,367
1934.....	4,098	3,210	1,338	1,872
1935.....	4,910	3,346	1,384	1,962
1936.....	4,979	3,976	1,511	2,465
1937.....	5,407	3,573	1,767	1,806
1938.....	6,164	3,506	1,739	1,767

NOTE.—The terms "farm receipts" and "farm expenses" as used in this table are essentially in accord with their general use in farm business analysis studies. The term "farm income" refers to the difference between farm receipts and farm expenses. It represents the amount available to the farm operator for his labor and management, as well as return on the investment in the farm business. Payment of interest on debts must come out of this income.

sented by the reports cooperated in the agricultural adjustment programs. Income included Government payments on this account. Farmers reporting this item separately averaged a little better than \$200 in Government payments in 1938.

A FEW facts from data in the account books reveal some of the changes which have been made toward the goals contemplated by the agricultural conservation programs. In Indiana, the farmers increased the number of acres of tillable land in legume sod, from 34 acres per farm in 1931 and 1932 to 43 acres in 1938. In Illinois, 70 percent of the tillable land on the account farms had been in corn and small grains in 1931 and 1932,

as contrasted with 64 percent in 1938. The shifted acreage had been planted to hay and pasture. In Michigan, the 1931-32 acreage in legume crops was 25 percent of the tillable land, as contrasted with 31 percent in 1938.

It is believed that the types of farming followed within the four States are fairly represented by these account book farms, but data from the accounting farms should not be used to represent averages for the States named. These farms are larger than State averages. Crop yields and efficiency in livestock production were, in the main, above average. Incomes doubtless were higher than the average for all farms in the four States.

HARVEY W. HAWTHORNE.

Toward Farm Security

GOVERNMENT loans and grants have been made to more than 1,000,000 low-income farm families under rural rehabilitation and relief programs of the Farm Security Administration. Rehabilitation loans to 559,000 families totaled \$376,476,000 during the 5 years ended April 30 last, grants to some of these borrowers and to an additional 546,000 families amounted to \$112,531,000 during this period, and tenant purchase loans to 7,000 families aggregated \$41,873,000.

A Government survey made in 1935-36 had revealed that approximately 1,650,000 farm families had gross incomes of less than \$500 a year. Practically all of these families needed help in managing their farms. They lacked tools, livestock, and education in sound farming practices. They needed both money and guidance. To help meet these needs the program of the Farm Security Administration was created, and the major emphasis placed upon supervised loans.

AVERAGING \$350 to \$800, rehabilitation loans are made to

needy farm families the country over to buy the cultivators, mules, and other equipment needed to carry on farm work. The rehabilitation loans are made for a period of 1 to 5 years and carry an interest rate of 5 percent. To be eligible for such a loan a farmer must either own or be able to lease enough land to provide his family an adequate living under normal conditions. He must be unable to obtain a loan from any private credit agency. Security is based upon the farmer's character and upon the use of sound farm practices as outlined in a "farm-and-home plan."

This "farm-and-home plan" prepared jointly by the farm family and the local FSA farm-and-home supervisors, provides for the home production of most of the family's food supply and feed for their livestock. It includes the production of two or more farm products for sale. All income and expenses are estimated, and farm methods that will conserve the soil must be adopted. The amount of the loan is based on the livestock and equipment needed to put the plan in action. After the

loan is made the Farm Security farm-and-home supervisors continue to work with each family throughout the farming season, supplying practical information on modern farming methods.

A recent survey showed that farm families aided by rehabilitation loans and guidance have increased their net worth—the value of their possessions minus their debts—by an average of \$230 or 26 percent. These families in the aggregate have added to the wealth of their communities a total of nearly 83 million dollars. Moreover, while much of the money loaned has not yet fallen due, to date more than 128 million dollars has been repaid and returned to the United States Treasury. It is estimated that eventually at least 80 percent of the loans will be repaid. Loans outstanding as of April 30 last totaled approximately 256 million dollars.

IN a limited number of cases the Farm Security Administration also makes loans large enough to purchase a family-size farm. These are the tenant purchase loans which are made only to tenants, sharecroppers, and farm laborers. They extend for a period of 40 years, carrying a 3 percent interest rate and, as in the case of the short-term loans, must be accompanied by a sound "farm-and-home plan." Funds provided for tenant loans are allocated among the States on the basis of farm population and the prevalence of tenancy. A committee of local farmers selects the families who are to receive the loans and approves the farms to be purchased. More than 133,000 applications were received for the approximately 7,000 loans being made during the current fiscal year.

Tenant purchase loans are made in an effort to check the increasing rate of farm tenancy. More than 4 out of every 10 of the Nation's farm families are tenants and the total number of tenants is increasing at the rate of

about 40,000 a year. Many farm families who have obtained a new start under the rehabilitation program are able to continue their progress with the aid of a tenant purchase loan.

June 30, 1940, will mark the end of the third year of the tenant purchase program. By that date it is estimated that approximately 13,000 loans will have been made in 1,300 counties. During the first 2 years of the tenant purchase program the loans averaged \$5,400 which covered both the cost of the farm and the repairs needed to place the farm buildings in good condition. Repayments have exceeded expectations. Although only \$92,544 fell due at the end of the first year of operation, the borrowers repaid \$152,779 or 165 percent of maturities. Preliminary reports on the second year's collections indicate a continued high repayment record.

SEVERAL supplemental programs have been developed. Farm Security helps farm families who have accumulated a top-heavy debt load to get these debts adjusted to a point within their ability to pay. Tenant farmers are aided in obtaining long-term written leases that state clearly what is expected of both landlord and tenant. In an effort to improve their health, the Farm Security Administration has helped low-income farmers to form group medical associations. In many cases the low-income farmers have been helped to form cooperatives for the purchase of heavy farming equipment, purebred breeding stock, canning equipment, and veterinarian services. Fertilizer, seed, and other farm supplies are bought in large quantities at considerable savings.

More than \$112,500,000 has been distributed as relief grants to farm families in areas stricken by drought and other catastrophes to enable these families to purchase needed food and clothing. A large portion of this money has been spent in the Great Plains States where the weather has been exceptionally dry in recent years.

Many grants were made in the flood areas in 1936 and in the Southern States where the fruit and truck crops were hard hit by heavy frost in the winter of 1939-40. Grants have been made to many rehabilitation loan borrowers and to an additional 546,000 farm families.

THE 164 homestead developments, or "resettlement communities" as they are sometimes called, make up much of the remainder of the Farm Security Administration program. These projects were started by the Federal Emergency Relief Administration, the Subsistence Homestead Division of the Department of the Interior, and the Resettlement Administration. Most of these developments, varying widely in type, were designed to give low-income farm families a chance to make a better living under modern farming conditions. There are 15,700 families in these communities. New farm houses have been built, modern farming methods have been introduced, and on more than a third of the projects cooperative enterprises have been developed. At approximately two-thirds of the projects the homesteads are grouped in the form of a community and the remainder are formed by scattered or small groups of farms. On most of the developments the families lease their homesteads for a trial period before purchasing. As of March 31 last a total of \$158,511,000 had been spent in project development. A critical appraisal of these resettlement projects is now being made by the Bureau of Agricultural Economics.

THE plight of the agricultural migrant unable to find work is of major concern to the Farm Security Administration. Drought, mechanization of farms, rapidly increasing farm population, and many other factors have forced hundreds of thousands of farm families off the land. Today these families are wandering

from State to State, obtaining part-time work in the harvest, earning from \$250 to \$400 a year. To provide temporary shelter for a portion of these families the Farm Security Administration has built or has under construction 25 permanent and 6 mobile camps. These camps are composed mainly of tent platforms or one-room shelters, and sanitary facilities. The 31 camps are located in 7 States—15 in California, 2 in Washington, 2 in Oregon, 3 in Idaho, 3 in Arizona, 4 in Texas, and 2 in Florida. A total of \$7,415,000 has been spent for the development of these camps which provide shelter for 7,000 families at any one time and may be used by from 12,000 to 15,000 families in 1 year.

While these camps offer only the barest minimum of decent living facilities they provide far better shelter and sanitary arrangements than most of the migrants could otherwise obtain and they have done much to relieve suffering and check the spread of disease. The camps do not pretend to provide good housing nor can they be considered a permanent solution for the migrant problem.

The main efforts of the Farm Security Administration in its attack upon the migrant farm labor problem have dealt with the checking of migration at its source. For every dollar which the Farm Security Administration has used to aid migrants in California, for example, it has used 20 dollars for the rehabilitation of needy farm families in the five States from which most of the Pacific coast migrants originally came—Oklahoma, Texas, Kansas, Arkansas, and Missouri. In the same way throughout the Nation, the main emphasis of the Farm Security Administration's program is to help low-income farmers keep their foothold on the land.

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Farm Security Administration.

Turpentine—An Old Southern Industry

GUM spirits turpentine from April 1 to 9, 1920, sold on the Savannah, Ga., market—major trading center for the naval stores industry—at \$2.33 a gallon, or \$116.50 a 50-gallon cask—an all-time high. During the corresponding 9 days of this year 1940, the same commodity brought 29½ to 30¼ cents a gallon, or on the average \$14.94 a cask—less than 10 points above the record low of 19¼ cents a gallon in September 1938. This decline, which represents a general drop in the price level of the principal products of the oldest industry in the United States, had of course its daily and seasonal fluctuations, but over all it was steadily downward.

This price decline was not accompanied by a greater production and a wider distribution of product. Actual output has changed little in the last 20 years. The production of units—a unit is 1 barrel of turpentine and 3½ barrels of rosin—from April 1, 1920, to March 31, 1921, was 525,000 as compared with 534,000 for the same period in 1938-39. The main products are turpentine, pitch, tar, and rosin, but an increasing number of others have been developed, such as pine oils, synthetic camphor, solvents, and other chemicals.

SOME practical students and active participants in the industry believe that better days may be ahead for naval stores. Until 6 or 7 years ago, the business of cutting, or wounding, longleaf and slash pine trees and collecting the sap—oleoresin—was in many respects unchanged since it was begun in the virgin pines of North Carolina in 1665. Today, production methods that are less wasteful are being used, Government conservation programs are in effect, and research deals with the development of new uses and new products.

The naval stores belt includes, roughly, the southern half of Georgia,

The production of naval stores is one of the oldest of American industries. More than three centuries ago—in 1608—the settlers of Virginia were producing pitch and tar and shipping these products to England for use in the caulking of wooden ships. Long before that, the ancient mariner Noah had been instructed when building the Ark to “pitch it within and without with pitch.”

The naval stores industry in the United States expanded through the centuries, covered a wide area from Georgia to Texas, and at one time yielded the producers more than \$60,000,000 a year. But things have not gone so well in the last two decades. Wasteful production methods began to take their toll, and the competition from other products has increased.

This article covers some of the principal problems of the naval stores industry—it tells what is being done by public and private agencies in an effort to solve them.—Ed.

northern Florida, a slice of southern Alabama, and the southern quarter of South Carolina, with scattering production in Louisiana, Mississippi, and Texas. The gum naval stores belt covers a gross land area of 75 million acres. In longleaf and slash pine woods suitable for turpentering there are about 28 million acres, of which 7 million acres are being rested or have been worked out, and 11 million are in timber too small for working or mature timber held in reserve. The gum naval stores industry is the greatest single user of land in the deep South.

IN 1932-33, when production was 450,000 units—the smallest in 20 years—and net cash returned to producers at the stills was \$13,792,000

compared with the high of \$63,509,000 in 1920-21, there were about 1,000 producers who distilled their own and others' gum, and about 11,000 producers—or turpentine farmers—who simply produced and sold gum. There were in the woods perhaps 50,000 Negro workers who chipped the faces on the trees, fixed the gutters and cups into which the resin ran, gathered this with buckets, and dumped it into dip-barrels, which were trucked to the old-time pot stills. About 30 percent of the producers owned their lands while the rest operated under lease, usually made for 4 years at a fixed rental.

Banks refused to lend money in advance on naval stores crops, and the financing of the producer was in the hands of "factors" who for years dominated the industry. Cash or credit from the "factor" enabled the producer to lease land, buy supplies for his operation and his labor, which lived in his camps in the forest and received an average wage throughout the year of around \$5 or \$6 a week. Sometimes, to protect his investment, the "factor" had to take over. When he found a successful operator, he urged him to lease more land and provided the funds. The result was that as a rule the producer was in debt year after year. There are instances of record where three generations of producers in a single family were continuously in debt to the same "factor"—grandfather, father, and son.

ROSIN became an important commercial product about 50 years ago. Prior to that time most of the rosin was dumped as waste, much as cottonseed used to be. The business wormed on, using old-type stills and old methods. Often the home-made containers in which the turpentine was shipped leaked en route. The home-made rosin barrels, seamed with clay, were broken and smashed in transit and in hot weather the rosin often melted and ran out through the staves. The consensus is that the piney woods

workers didn't realize that the world beyond the woods had changed. They seem never to have given much thought to the outside buyer of their products.

Then, about 1920 cheap mineral spirits began to be substituted for turpentine in paint mixing. Cooking resin from old pine stumps developed as a rival industry. Naval stores industries developed in foreign countries cut exports which had taken for some years about half the United States output. For a number of years, most of the producers lost money, production and marketing costs as a rule being more than the selling price per unit at the still.

BEGINNING with 1934, there were several new developments. Outside capital, believing the day of the old pot still was done, began putting up modern distilling plants with the idea of buying gum spirits from surrounding areas. Today, there are five such plants in Georgia and one in north Florida. These central distillation plants cost \$30,000 to \$150,000 apiece as compared with \$2,000 to \$5,000 for the old-type stills. Some have 20 thousand and 30 thousand barrel tank capacity for the storage of crude gum. They have modern equipment for purifying and standardizing the output, and can feed the product to market in an orderly manner hitherto impossible.

These plants continue to ship turpentine in well-made wooden barrels to some extent, but most of the product now moves in tank cars. Recently a large business has been developed for the retail trade by packing turpentine in tin cans holding from 1 pint to 5 gallons. Hot rosin is shipped in vacuum tank cars to big soap-making outfits. The old-style wooden barrels for rosin are rapidly being replaced by metal drums. Many of the large processing plants are packing rosin in heavy paper bags of 100 pound net weight.

ANOTHER development has been the naval stores conservation program administered by the United States Forest Service, and the loans to producers of naval stores since 1934 by the Commodity Credit Corporation. The CCC has loans aggregating about \$15,000,000 outstanding on about 1,100,000 barrels of rosin and 60,000 barrels of turpentine. In effect, the naval stores program pays bounties to producers who follow sound practices in turpentineing their trees, prescribing no chipping of trees under 9 inches in diameter at breast height, not more than one "face" on trees under 14 inches, and the keeping of fire, which prevents reforestation by killing young trees, out of the woods.

Bounties have been offered producers for the years 1939 and 1940 on trees kept out of production because of the condition of the market and the huge carry-over now on hand. In 1939, more than 2,500 producers, representing 85 percent by volume of the entire American croppage, participated in the conservation program, and received about \$1,600,000. Estimates are that their cooperation cut the production about 25 percent. Ac-

cording to the Forest Service, in 1934-35 about 30 percent of all faces were on trees under 9 inches in diameter, breast height, whereas today it is believed not more than 6 percent is on such trees.

In 1936 was organized a national association of turpentine farmers. Membership includes more than 90 percent of all the producers by volume of production. The association is sponsoring a national advertising campaign for turpentine. It has underwritten a research program to discover new products from oleoresin and for the better exploitation of old ones.

At present 90 percent of the total consumption of rosin is used for soap, paper sizing, and varnish. Principal consumers of turpentine are paint and varnish and shoe-polish and leather-dressing, makers. Currently the demand for naval stores is steady and prices are firm. The European war seems to be having little appreciable effect, though it has temporarily closed most of the markets of Europe to the American product.

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Freight Rates on Perishables

NEW indices of railroad freight rates on perishable farm products, developed by the Bureau of Agricultural Economics, here appear for the first time. These indices depict trends in rates on perishables which have characterized the years since the outbreak of the first World War. They deal with an industry of increasing importance in recent years. Perishable shipments comprised 11.9 percent of the 95.4 million tons of agricultural carload shipments originated in 1938, and provided 40.4 percent of the 527 millions of dollars of railroad freight revenue derived therefrom.

Owing to the great distances which

separate the predominant fruit and vegetable producing areas of the Pacific coast, the Southwest, and the Southeast, from the populous consuming centers of the Northeast, a large proportion of the perishable rail traffic moves long distances. The average haul for perishable traffic is in excess of 1,400 miles. The average haul for all rail traffic was only 356 miles in 1938, and less in previous years.

THE commodities included in the indices are the more important fruits and vegetables domestically produced, and which contribute the

bulk of the perishable rail traffic. For purposes of the study, the following groupings are observed:

Citrus fruits: Oranges, grapefruit, lemons, and tangerines.

Apples.

Deciduous fruits, other than apples: Grapes, peaches, pears, plums, and fresh prunes.

Potatoes.

Truck crops, other than potatoes: Lettuce, tomatoes, celery, cabbage, carrots, onions, green peas, watermelons, cantaloupes and related melons.

During the 5-year period 1934-38, inclusive, these commodities accounted for 89 percent of total rail and boat shipments of fresh fruits and vegetables from United States origins.

For each of the commodity groups, two national indices of railroad freight rates appear in tables 1 and 2. One is computed to a 1924-29 base; the other, to a 1913 base. In addition, several regional indices, based on 1924-29, are given for citrus fruits, apples, and potatoes.

PRIOR to 1923, changes in the indices of rates on perishables were dominated, but not entirely accounted for, by the general increases in railroad freight rates of June 1918 and August 1920, and the general decreases of January and July 1922. The next landmark in freight-rate history of perishables came in 1927, when the Commission ordered substantial reductions, finally effective February 10, 1928, in rates on transcontinental shipments from Pacific-coast origins of fresh deciduous fruits other than apples pursuant to a decision governed by the Hoch-Smith Resolution.¹ This was a joint resolution of Congress, approved January 30, 1925, the intent of which was to secure the lowest possible lawful rates on the products of depressed segments of agriculture.

The issue was carried before the Supreme Court which, in June 1930,

¹ *California Growers' and Shippers' Protective League v. Southern Pacific Co. et al.*, 129 I. C. C. 25, 132 I. C. C. 582.

reversed the decree of the lower court and set aside the above decision of the Interstate Commerce Commission.² The Supreme Court ruled that the Hoch-Smith Resolution, a vital piece of legislation from the viewpoint of agriculture, had made no changes in the existing law and had, therefore, afforded the Commission no authority for prescribing rate reductions not lawful independently of that resolution. The prior rates were restored, effective July 19, 1930. The rate changes mentioned exerted a marked influence upon the index of rates on deciduous fruits other than apples.

² *Ann Arbor R. R. Co., et al. v. United States*, 281 U. S. 658.

Table 1.—Indices of Published Freight Rates on Domestic Rail Shipments of Fresh Fruits and Vegetables. United States, 1913-38

Year beginning July	[1913=100]				
	Citrus fruits	Apples	Deciduous fruits other than apples	Potatoes	Truck crops other than potatoes
1913----	100	100	100	100	100
1914----	100	100	100	100	100
1915----	100	100	100	100	102
1916----	98	100	100	100	102
1917----	98	102	100	103	104
1918----	121	119	125	127	129
1919----	121	127	125	130	127
1920----	157	169	155	173	164
1921----	153	157	166	167	151
1922----	144	153	150	155	148
1923----	138	153	150	154	148
1924----	134	153	150	154	148
1925----	134	153	150	154	148
1926----	134	153	149	154	148
1927----	134	153	148	154	148
1928----	133	153	139	155	147
1929----	133	153	138	155	147
1930----	133	153	146	155	146
1931----	132	153	147	155	146
1932----	132	145	147	153	146
1933----	124	129	140	151	145
1934----	121	127	132	150	144
1935----	120	128	130	145	144
1936----	114	127	130	143	143
1937----	114	123	124	144	146
1938----	117	123	130	147	151

Bureau of Agricultural Economics. The above indices are of the weighted aggregative type. They are based upon averages of rates in effect during the year, in the computation of which successively applicable rates are weighted by the estimated proportion of annual shipments moved thereon, assuming an average seasonal distribution of shipments. The weights used in computing the indices are based on average tons shipped during the 5-year period 1934-38, inclusive.

WITH the advent of the depression of 1929 the carriers faced a decline in traffic out of proportion to the diminution of industrial production. New developments in highway and water transportation introduced a period of intense competition. During the past decade, there has been a considerable diversion of tonnage from the rails to highway and water carriers. The railroads, in the effort to main-

tain their relative position, have instituted numerous reductions in rates on perishables—as well as on other commodities—to meet the competition of motortrucks or boats, or to make possible the shipment of products which might otherwise have been diverted to local sale or abandoned altogether.

The combined effects of depression and competition expressed themselves in an impaired credit position of the

Table 2.—Indices of Published Freight Rates on Domestic Rail Shipments of Fresh Fruits and Vegetables from Specified Origin Areas to Destinations in United States, 1913-38

[1924-29=100]

Year beginning July	Commodity and origin area											
	Citrus fruits				Apples			De- cid- uous fruits other than apples	Potatoes			Truck crops other than pota- toes
	Pacific Coast	Texas	Florida	United States ¹	Pacific Coast	Virginia	United States ²		United States	Maine	Idaho		United States ^{2}	United States
1913.....	73	---	67	75	67	52	65	69	56	75	65	68
1914.....	73	---	67	75	67	52	65	69	58	73	65	68
1915.....	73	---	67	75	67	54	66	69	58	73	65	69
1916.....	73	---	67	73	67	54	66	69	58	73	65	69
1917.....	73	---	67	73	67	62	66	69	63	73	67	70
1918.....	91	---	84	90	78	78	78	86	80	91	82	87
1919.....	91	---	84	90	83	78	83	86	80	91	84	86
1920.....	117	---	111	117	111	110	111	106	112	118	112	111
1921.....	115	---	104	114	102	111	102	114	109	112	108	102
1922.....	109	104	100	107	100	100	100	103	100	100	100	100
1923.....	104	103	100	103	100	100	100	103	100	100	100	100
1924.....	100	103	100	100	100	100	100	103	100	100	100	100
1925.....	100	103	100	100	100	100	100	103	100	100	100	100
1926.....	100	103	100	100	100	100	100	102	100	100	100	100
1927.....	100	103	100	100	100	100	100	102	100	100	100	100
1928.....	100	94	99	99	100	100	100	95	100	99	100	99
1929.....	100	93	99	99	100	100	100	95	100	99	100	99
1930.....	100	93	99	99	100	100	100	100	100	99	100	99
1931.....	100	93	94	99	100	94	100	101	100	99	100	99
1932.....	100	93	98	99	95	86	95	101	100	99	99	99
1933.....	93	86	91	92	84	86	84	96	98	98	98	98
1934.....	93	83	82	90	83	86	83	91	97	92	97	98
1935.....	93	83	78	89	83	86	84	89	93	90	94	98
1936.....	89	77	71	85	82	86	83	89	93	88	92	97
1937.....	89	76	72	85	80	86	81	85	94	89	93	99
1938.....	92	79	73	88	79	91	81	89	92	93	95	102

¹ Texas rates are included throughout. The exceptional behavior of the "paper rates" on hypothetical shipments of Texas citrus before the development of the Texas citrus industry renders inadvisable the publication of the Texas series for the years 1913 to 1921. The distorting influence upon the national citrus index is not serious.

² Origin areas represented are not limited to those for which separate indices are given.

Bureau of Agricultural Economics. The above indices are of the weighted aggregative type. They are based upon averages of rates in effect during the year, in the computation of which successively applicable rates are weighted by the estimated proportion of annual shipments moved thereon, assuming an average seasonal distribution of shipments. The weights used in computing the indices are based on average tons shipped during the 5-year period 1934-38, inclusive.

railroads. Two cases before the Commission brought by the carriers in the hope of securing authority for general rate increases resulted in compromise systems of temporary surcharges designed to alleviate the strain upon railroad credit and help the carriers to meet their fixed obligations.³ During the first surcharge period, from January 4, 1932, until October 1, 1933, a moderate surcharge of 1 cent per 100 pounds was permitted on shipments of citrus fruits and truck crops, except potatoes, but domestic deciduous fruits and potatoes were unaffected. During the second period, from April 18, 1935, until December 31, 1936, fewer rates on perishables were increased than in the preceding case. Maximum surcharges of 3 cents per 100 pounds were made permissive on fresh grapes, berries, and minor deciduous fruits.

THE most recent general change in rates affecting perishable shipments was in 1938, when the Commission, in the *Fifteen Percent Case*, 1927-38, 226 I. C. C. 41, authorized increases in railroad freight rates of 5 percent on agricultural products, and 10 percent on nonagricultural products. These increases became effective March 28, 1938. The railroads at the time were admittedly in a dire financial position. Not all of the increases, however, have since been maintained.

During the past decade, competitive rate reductions have outweighed horizontal percentage changes in rates. Charts recently published by the Interstate Commerce Commission⁴ provide a rough indication of the extent to which potential rail tonnage

has been shipped by other means of transportation, or diverted to local use or manufacture. Comparisons of 1938 with 1929 indicate that although the production of fresh fruits increased nearly one-fourth from 1929 to 1938, tonnage of fresh fruits originated by rail dropped by a like proportion. Similarly, the production of fresh vegetables was slightly greater in 1938 than in 1929, but the tonnage of these commodities originated by rail in 1938 declined roughly to 75 percent of the 1929 traffic.

Water carriers, also, have invaded fields of service once dominated by the railroads. The outstanding instance concerns Florida citrus shipments. Prior to 1930, the movement of Florida citrus by water to eastern port cities was negligible. During the season 1936-37 65 percent of citrus shipments to these cities—Boston, New York, Philadelphia, and Baltimore—moved by water.

Table 3.—Indices of Prices of Farm Products Compared with Indices of Railroad Freight Rates on Perishables, 1938

Commodity	1938			
	1913=100		1924-29=100	
	Index of prices of farm products	Index of freight rates ¹	Index of prices of farm products	Index of freight rates ¹
Citrus fruits.....	(2)	117	33	88
Apples.....	92	123	70	81
Deciduous fruits, other than apples.....	(2)	130	(3)	89
Potatoes.....	82	147	50	95
Truck crops, other than potatoes.....	4 101	151	89	102

¹ Year beginning July.

² Indices of farm prices of citrus fruits and deciduous fruits, other than apples are not available. The general index of farm prices of "fruits" July-June, as computed from the Yearbook of Agriculture and Agricultural Statistics is 72.

³ Not available. General index of "all fruits" is 52.

⁴ August 1909-July 1914=100.

Bureau of Agricultural Economics.

³ The *Fifteen Percent Case*, 1931, 178 I. C. C. 539; 179 I. C. C. 215, and *Emergency Transportation Charges*, 1935, 208 I. C. C. 4; 215 I. C. C. 439; 219 I. C. C. 565.

⁴ Graphical supplement to monthly reports, series 1940, No. 1.

THE impact of changes in freight rate levels upon the interests of agricultural shippers depends primarily upon the relationship of rates to destination prices, rather than upon the absolute levels of the rates considered independently. Table 3 contains comparative data bearing upon this point, with the 1938 values of the national indices repeated. These figures show that, whether 1938 indices of prices and rates are based upon pre-war levels, or upon 1924-29

levels, prices in 1938 (farm prices for want of destination prices) were relatively much lower than freight rates on the corresponding commodities. Taking either of the two base periods as the point of departure, the trend has been toward an increase in the relative cost of transportation to market—the proportion of destination price absorbed by transportation charges.

C. C. MATLOCK.

United States: Exports and Imports of Specified Agricultural Commodities, April, 1939 and 1940, and September-April, 1938-39 and 1939-40 ¹

Commodity	Unit	April		September-April	
		1939	1940	1938-39	1939-40
Exports:					
Pork:					
Cured pork ²	Pound.....	<i>Thousands</i> 6, 119	<i>Thousands</i> 2, 353	<i>Thousands</i> 44, 180	<i>Thousands</i> 40, 886
Other pork ³	Pound.....	1, 931	2, 604	24, 523	65, 500
Total pork.....	Pound.....	8, 050	4, 957	68, 703	106, 386
Lard, including neutral lard.....	Pound.....	17, 531	18, 849	167, 761	181, 032
Wheat, including flour.....	Bushel.....	9, 518	3, 837	70, 064	33, 993
Apples, fresh ⁴	Bushel.....	634	96	11, 162	2, 717
Pears, fresh.....	Pound.....	550	250	131, 151	64, 028
Tobacco, leaf.....	Pound.....	18, 677	15, 864	363, 552	224, 290
Cotton, excluding linters (500 pounds).	Bale.....	187	367	2, 918	5, 780
Imports:					
Cattle.....	Number.....	126	71	550	418
Beef, canned including corned.....	Pound.....	8, 640	4, 488	48, 376	53, 506
Hides and skins ⁵	Pound.....	25, 298	22, 601	200, 370	218, 141
Barley malt.....	Pound.....	11, 287	6, 754	63, 507	45, 089
Sugar, cane (2,000 pounds).....	Ton.....	224	293	1, 446	2, 071
Flaxseed.....	Bushel.....	1, 416	1, 119	13, 573	9, 623
Tobacco, leaf.....	Pound.....	3, 546	5, 273	37, 091	40, 537
Wool, excluding free in bond for use in carpets, etc.	Pound.....	7, 109	12, 466	45, 224	139, 455

¹ Corrected to May 24, 1940.

² Includes hams, shoulders, bacon, and sides.

³ Includes fresh, frozen, pickled, salted, and canned.

⁴ Includes baskets, boxes, and barrels, in terms of bushels.

⁵ Excludes the weight of "other hides and skins" which are reported in pieces only.

Office of Foreign Agricultural Relations. Compiled from official records of the Bureau of Foreign and Domestic Commerce.

Correction: The Commodity Credit Corporation reports two errors in the table accompanying the article "Commodity Credit Corporation Loans" in the May 1940 issue. Under *Wool* and *Mohair* the total quantity placed under loan in the 1938 program, given as 19,179, (000) pounds should read 82,588, (000), and the total for the 1938 and 1939 changed to read 91,531, (000) pounds. The figure 19,179, (000) represents the quantity pledged to secure the loans finally assumed by the Commodity Credit Corporation rather than the total quantity placed under loan. . . . For 1934 *Rosin* the average loan rate of \$4.46 was on a 280-pound unit. The figure comparable to the 1938 and 1939 rates, which were on a 500-pound barrel, is \$7.99.

Farm Real Estate Values

SEVERAL favorable factors account for an increase of about 1 percent in the average of farm real estate values the country over during the year ended March 1, 1940. These included a substantial rise in prices of farm products following the outbreak of the European war, and an increase of more than 400 million dollars in farmers' cash income from marketings and Government payments in 1939 compared with 1938. Except for 1937, farmers' cash income of 8.5 billion dollars in 1939 was the highest since 1930.

Other favorable factors included the continuation of low interest rates on farm mortgages, the relatively low cash payments required in the purchase of lands held by public and private credit agencies, and the expectancy of a possible increase in demand for agricultural products as a direct or indirect result of the war. Farmers' cash income was larger in the first quarter of 1940 than in the like period of 1939, and it was expected that similar gains would be made in the second quarter.

THE index of average value per acre of farm real estate was 85 as of March 1 last, compared with 84 on March 1, 1939, and with 85 on the corresponding dates in 1937 and 1938. Values have fluctuated little in the last 4 years, but now average about 16 percent above the depression low levels in 1933 when the index of the national average was 73. These indexes are constructed on a base of 100 for the years 1912-14. The 1930 index was 115, and the 1920 index was 170.

Factors operating to prevent a larger rise in farm real estate values during 1939 included the large number of farms held for sale by lending agencies as a result of farm mortgage foreclosures, and the availability of a large number of farms owned by elderly farmers or by estates in process of liquidation. Other counteracting factors included a continuing relatively high level of farm real estate taxes and a low level of purchasing power of farm products in terms of other commodities.

ONLY one major geographic division—the West North Central States as a group—failed to show an increase in farm real estate values during the past year. The decrease in this division was about 1 percent. The largest increase in values, amounting to about 3 percent, was in the East South Central Division. Average farm land values increased in 25 States, decreased in 6, and were unchanged in 17.

For the entire country, average farm real estate values are about 15 percent below the 1912-14 level, although in 15 States the average values exceed those of the base period. Average values in all States are below the 1930 levels, and in only 3 States—Indiana, North Carolina, and Louisiana—equal to or above the 1931 levels. In 14 States, values are above those reported in 1932, and in all States except North Dakota, South Dakota, and Nebraska the values are equal to or above values in 1933.

A. R. JOHNSON.

Maple products.—Fewer maple trees were tapped this season than last—10.1 million trees as compared with 10.5 million in 1939. But the production of sirup was larger this season—2.6 million gallons as compared with 2.5 million. The sap was unusually sweet. The sirup was of high quality.

Economic Trends Affecting Agriculture

Year and month	Indus- trial pro- duction (1923- 25=100) ¹	Income of indus- trial workers (1924- 29=100) ²	Cost of living (1924- 29=100) ³	Whole- sale prices of all commod- ities ⁴	(1910-14=100)			Farm wages	Taxes
					Prices paid by farmers for commodities used in— ⁵				
					Living	Pro- duction	Living and production		
1925.....	104	98	101	151	164	147	157	176	270
1926.....	108	102	102	146	162	146	155	179	271
1927.....	106	100	100	139	159	145	153	179	277
1928.....	111	100	99	141	160	148	155	179	279
1929.....	119	107	99	139	158	147	153	180	281
1930.....	96	83	96	126	148	140	145	167	277
1931.....	81	67	88	107	126	122	124	130	253
1932.....	64	46	79	95	108	107	107	96	219
1933.....	76	48	76	96	109	108	109	85	187
1934.....	79	61	78	109	122	125	123	95	178
1935.....	90	69	80	117	124	126	125	103	180
1936.....	105	80	81	118	122	126	124	111	182
1937.....	110	94	84	126	128	135	130	126	187
1938.....	86	73	82	115	122	124	122	124	186
1939.....	105	83	82	113	120	122	121	124	.....
1939—May.....	92	75	81	111	.....	.....	120	.....	.....
.....June.....	98	80	81	110	119	121	120	.....	.....
.....July.....	101	80	81	110	.....	.....	120	126	.....
.....August.....	103	83	81	109	.....	.....	119	.....	.....
.....September.....	111	86	82	115	122	123	122	.....	.....
.....October.....	121	91	82	116	.....	.....	122	126	.....
.....November.....	124	93	82	116	.....	.....	122	.....	.....
.....December.....	128	93	82	116	121	123	122	.....	.....
1940—January.....	119	93	82	116	.....	.....	122	119	.....
.....February.....	109	89	82	115	.....	.....	122	.....	.....
.....March.....	104	87	82	114	121	125	123	.....	.....
.....April.....	102	86	82	115	.....	.....	123	124	.....
.....May.....	.....	.....	.....	115	.....	.....	123	.....	.....

Year and month	Index of prices received by farmers (August 1909-July 1914=100)							Ratio of prices received to prices paid
	Grains	Cotton and cotton-seed	Fruits	Truck crops	Meat animals	Dairy products	Chick-ens and eggs	
1925.....	157	177	172	153	140	153	163	99
1926.....	131	122	138	143	147	152	159	94
1927.....	128	123	144	121	140	155	144	91
1928.....	130	152	176	159	151	158	153	96
1929.....	120	144	141	149	156	157	162	95
1930.....	100	102	162	140	133	137	129	87
1931.....	63	63	98	117	92	108	100	87
1932.....	44	47	82	102	63	83	82	65
1933.....	62	64	74	105	60	82	75	70
1934.....	93	99	100	103	68	95	89	90
1935.....	103	101	91	125	118	108	117	108
1936.....	108	100	100	111	121	119	115	114
1937.....	126	95	122	123	132	124	111	121
1938.....	74	70	73	101	114	109	108	95
1939.....	72	73	77	105	110	104	94	93
1939—May.....	72	72	85	88	112	92	85	90
.....June.....	73	73	93	105	107	94	83	89
.....July.....	66	73	80	99	107	96	89	89
.....August.....	64	71	70	99	101	100	90	88
.....September.....	83	76	73	117	117	107	102	98
.....October.....	77	74	73	128	112	112	108	97
.....November.....	79	75	66	123	107	117	117	97
.....December.....	87	82	65	96	101	118	97	96
1940—January.....	90	85	66	117	103	119	91	99
.....February.....	91	85	76	168	101	118	98	101
.....March.....	92	85	73	128	102	114	83	97
.....April.....	96	85	81	145	104	110	82	98
.....May.....	92	83	88	133	108	106	84	98

¹ Federal Reserve Board, adjusted for seasonal variation.

² Adjusted for seasonal variation.

³ Monthly indexes for months not reported by the Bureau of Labor Statistics are interpolated by use of the National Industrial Conference Board cost-of-living reports.

⁴ Bureau of Labor Statistics index with 1926=100, divided by its 1910-14 average of 68.5.

⁵ These indexes are based on retail prices paid by farmers for commodities used in living and production reported quarterly for March, June, September, and December. The indexes for other months are interpolations between the successive quarterly indexes.

⁶ Index of farm real-estate taxes per acre. Base period represents taxes levied in the calendar years 1909-13, payable mostly within the period Aug. 1, 1909-July 31, 1914.

⁷ Preliminary.

NOTE: The index numbers of industrial production and of industrial workers' income shown above are not comparable in several respects. The base periods are different. The production index includes only mining and manufacturing; the income index also includes transportation. The production index is based on volume only, whereas the income index is affected by wage rates as well as by time worked. There is usually a time lag between changes in volume of production and in workers' income, since output can be increased or decreased to some extent without much change in the number of workers.